

Assessment of growth and maternal  
attitude towards feeding practices in  
children with cleft lip and palate

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USM Short Term Grant  
304/PPSG/6131171

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CANSELORI

UNIVERSITI SAINS MALAYSIA

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attitude towards feeding ~~factors~~ practices  
in children with cleft lip and palate.

## **ASSESSMENT OF GROWTH AND FEEDING PRACTICES IN CHILDREN WITH CLEFT LIP AND PALATE**

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**Introduction:** Cleft lip and palate (CLP) are one of the commonest congenital abnormalities, which occur in early pregnancy. Patients with cleft lip and palate present with a number of problems. Among them feeding difficulties is commonly observed and is the most traumatic experience the family has to face. These infants are undernourished and have compromised growth in the early months after birth. Hence assessment of growth in children with orofacial cleft is crucial because it may be treatable in the early stages.

### **Objectives:**

1. To assess general health and growth parameters in children with CLP and those of normal children.
2. To investigate the feeding methods of CLP infants and normal infants.

**Methodology:** A total of 221 children from birth to six years belonging to both sex with cleft lip/ palate (60 children) and normal (161 children) were selected. The CLP and normal children were divided into three subgroups as per the age. They are subgroup I : birth to 2 years, subgroup II : 2 to 4 years and sub group III : 4 to 6 years. Demographic information was obtained through interviews. The attitude and practice of feeding the infants in subgroup I was assessed by using standard piloted questionnaires. The assessment of growth was done at baseline and after six months interval in all the subgroups. General well being of the children was assessed by noting their susceptibility to common infections.

**Results:** The results of the study showed that in terms of income 27.6% of the respondents had family income of less than RM 1000.00. Parents of CLP children had a significantly lower education than parents of normal children ( $p < .01$ ). Among CLP children, 31.7 % of them came from family size of 9 – 12 people. Mothers of the normal babies had a positive attitude ( $p < .01$ ) towards breast feeding. CLP children were more susceptible to infection like fever ( $p < .05$ ), diarrhoea ( $p < .05$ ) when compared to normal children. Increment of height was significantly lower ( $p < .05$ ) in CLP children when compared to normal children.

### **Conclusions:**

1. Mothers of normal infants had a positive attitude towards breast feed compared to CLP mothers.
2. CLP children were more susceptible to common infections.
3. CLP children had a lower height increment when compared to normal children.

## **PENILAIAN TUMBESARAN DAN AMALAN PEMAKANAN DIKALANGAN KANAK-KANAK REKAHAN BIBIR & LELANGIT**

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**Pengenalan:** Rekanan bibir dan lelangit (RBL) adalah kecacatan kongenital paling biasa ditemui dan sering berlaku diawal kehamilan. Penderita rekanan bibir dan lelangit sering mengalami pelbagai masalah. Antaranya ialah kesukaran untuk makan yang merupakan satu pengalaman traumatik yang harus ditanggung oleh pesakit dan keluarga mereka. Kanak-kanak RBL sering kekurangan zat dan menghadapi tumbesaran yang terjejas pada bulan-bulan terawal selepas kelahiran. Oleh itu amat penting penilaian ini dilakukan kerana hasil penilaian ini mungkin dapat membantu mengatasi masalah yang timbul sejak di peringkat awal lagi.

### **Objektif:**

1. Untuk menilai kesihatan umum dan parameter tumbesaran kanak-kanak RBL serta kanak-kanak normal.
2. Untuk menyiasat kaedah pemakanan yang diberikan kepada kanak-kanak RBL serta kanak-kanak normal.

**Metodologi:** Sejumlah 221 kanak-kanak dari lahir hingga berumur 6 tahun dari kedua-dua jantina telah dipilih untuk kajian ini. Dari jumlah tersebut, 60 orang adalah terdiri daripada kanak-kanak RBL manakala selebihnya (161 orang) adalah normal. Kesemua mereka telah dibahagikan mengikut usia: i) sub-kumpulan I – lahir hingga 2 tahun, ii) sub-kumpulan II – 2 hingga 4 tahun, dan iii) sub-kumpulan III – 4 hingga 6 tahun. Maklumat demografik diperolehi menerusi temuramah. Atitud dan amalan pemakanan di dalam sub-kumpulan I dinilai melalui soal-selidik standard yang telah diuji sebelumnya. Penilaian tumbesaran di dalam semua sub-kumpulan, dilakukan pada awal kajian dan 6 bulan kemudiannya. Kesihatan kanak-kanak tersebut secara umumnya dinilai melalui mudahnya mereka dijangkiti penyakit.

**Hasil:** Kajian menunjukkan 27.6% daripada responden mempunyai pendapatan sekeluarga yang kurang daripada RM 1,000.00. Ibubapa kanak-kanak RBL secara signifikan mempunyai pendidikan lebih rendah berbanding ibubapa kanak-kanak normal ( $p < .01$ ). Dikalangan kanak-kanak RBL, 31.7 % datang daripada keluarga yang berjumlah 9-12 orang. Ibu kanak-kanak normal mempunyai atitud yang positif ( $p < .01$ ) terhadap penyusuan ibu. Kanak-kanak RBL lebih mudah dijangkiti penyakit seperti demam panas ( $p < .05$ ), cirit-birit ( $p < .05$ ) berbanding kanak-kanak normal. Pertambahan ketinggian juga lebih rendah ( $p < .05$ ) dalam kanak-kanak RBL berbanding normal.

### **Kesimpulan:**

1. Ibu kanak-kanak normal mempunyai atitud positif terhadap penyusuan ibu.
2. Kanak-kanak RBL lebih mudah dijangkiti penyakit.
3. Kanak-kanak RBL mempunyai pertambahan ketinggian lebih rendah daripada kanak-kanak normal.

(b) Senaraikan Kata Kunci yang digunakan di dalam abstrak:

Bahasa Malaysia

Retakan bibir & langit

Amalan pemakanan

pertambahan ketinggian

Bahasa Inggeris

Cleft lip and palate

Feeding practices

height increment

5) Output Dan Faedah Projek

(a) Penerbitan (termasuk laporan/kertas seminar)

(Sila nyatakan jenis, tajuk, pengarang, tahun terbitan dan di mana telah diterbitkan/dibentangkan).

1) Scientific Meeting on Craniofacial Deformity

Prince of Songkhla University, Hat Yai, Thailand

3 Oktober 2003

2) 8th National Conference on Medical Science, USM

Kota Bharu, 7-8 May 2003



- (b) ~~Faedah-Faedah Lain Seperti Perkembangan Produk,~~  
~~Prospek Komersialisasi Dan Pendaftaran Paten.~~

*(Jika ada dan jika perlu, sila gunakan kertas berasingan)*

- 71A0A -

- (c) Latihan Gunatenaga Manusia

i) Pelajar Siswazah

- 71A0A -

ii) Pelajar Prasiswazah:

- 71A0A -

iii) Lain-Lain :

- 71A0A -

6. Peralatan Yang Telah Dibeli:

..... hp Laser Jet 1000 Series printer - 1 ~~Ad~~ unit

..... hp Scan Jet 2400 - 1 ~~Ad~~ unit

..... Handy drive 25.6 MB - 1 ~~Ad~~ unit

UNTUK KEGUNAAN JAWATANKUASA PENYELIDIKAN UNIVERSITI

..... Final report satisfactory  
..... Suggest to be published in journal



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JAWATANKUASA PENYELIDIKAN  
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MALAYSIA

**ASSESSMENT OF GROWTH AND MATERNAL ATTITUDE TOWARDS  
FEEDING PRACTICES IN CHILDREN WITH CLEFT LIP AND PALATE**

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**Under USM Short – Term Research Grant**

**No.304/PPSG/6131171**

**FINAL REPORT**

**October 2003**



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## **Executive Summary**

Feeding difficulties in cleft lip and palate (CLP) infants is commonly observed and is the most traumatic experience the family has to face. These infants are undernourished and have compromised growth. The purpose of this study was to 1) to assess general health and growth parameters in children with CLP and those of normal children. 2) to investigate the feeding methods of CLP infants and normal infants. A total of 221 children from birth to six years belonging to both sex with CLP ( 60 children) and normal (161 children) were selected. The CLP and normal children were divided into three subgroups as per age. The practice of feeding the infants in subgroup I was assessed by using standard piloted questionnaires. The assessment of growth was done at baseline and after six months interval in all the subgroups. General well being of the children was assessed by noting their susceptibility to common infections. The results showed mothers of the normal babies had a significantly positive attitude (  $p < .01$  ) towards breast feeding. When compared to normal children, CLP children were more susceptible to infections (  $p < .05$  ) and had a lower height increment (  $p < .05$  ). Hence height can be used to monitor growth in CLP Children.

## **Introduction**

Cleft lip and palate (CLP) are one of the commonest congenital abnormalities, which occur in early pregnancy. Congenital cleft results in a gap involving the lip, the upper maxilla and the palate, either independently or in combination. The majority of cleft appears to be due to a combination of genetics and environmental factor. Epidemiological studies conducted on the incidence of cleft palate and lip in Malaysian preschool children showed 1: 1304 for cleft lip and 1:1594 for cleft palate (1), while international data showed craniofacial anomalies occurs in approximately 1 in 500 live birth (2).

Patients with cleft lip and palate present with a number of problems among them feeding difficulties is commonly observed and is the most traumatic experience the family has to face. Children especially those with a cleft palate, have impaired sucking mechanism. More specifically, despite adequate sucking movements, they are unable to generate the negative pressure required for adequate sucking to occur (3,4). More air than normal is swallowed, feeding takes longer and the child may tire before the completion of the feed (3,5). These children are prone to nutritional problems since the healthiest and the safest source of nutrition for infants in breast milk. Recurrent infections, repeated operations and adverse psychosocial influences further aggravate the problem.

These infants are undernourished and have a compromised growth in the early months after birth (6,7). The growth problems of children with orofacial clefts have largely been attributed to inadequate nutrition (8).

However, studies have shown many children with orofacial clefting have impaired growth with no impairment of weight gain (9). Hence assessment of growth in children with orofacial cleft is crucial because it may be treatable in the early stages.

The purpose of this study was to 1) to assess general health and growth parameters in children with CLP and those of normal children. 2) to investigate the feeding methods of CLP infants and normal infants. 3) to assess the maternal attitude towards breast - feeding

## **Methodology**

This study was conducted in the School of Dental Sciences, Universiti Sains Malaysia. A total of 221 children from birth to six years belonging to both sex with cleft lip/ palate and normal were selected. The distribution of the sample in relation to the child's age, sex and ethnicity is shown in Table I. The CLP and normal children were divided into three subgroups as per the age. They are subgroup I : birth to 24 months, subgroup II : 25 to 47 months and subgroup III : 48 to 72 months. Demographic information was obtained through interviews. The attitude and practice of feeding the infants in subgroup I was assessed by using standard piloted questionnaires. The feeding habits in subgroup II and subgroup III was assessed with a 24 hr diet chart. The assessment of growth was done at baseline and after six months interval in all the subgroups. General well being of the children was assessed by noting their susceptibility to common infections.

### **Sample size**

Total number of children: 221

Group I Cleft palate children: 60

Sub group I: 20 (age birth to 24 months)

Sub group II: 20 (age 25 to 47 months)

Subgroup III: 20 (age 48 to 72 months)

Group II Normal children: 161

Sub group I: 62 (birth to 24 months)

Subgroup II: 48 (25 to 47 months)

Sub group III: 51 (48 to 72 months)

## Criteria for selection

### *Inclusion criteria*

1. Cleft lip and palate patients and normal children without other systemic and congenital abnormality.
2. New cleft lip and palate patients who report to Hospital Universiti Sains Malaysia.
3. Children who were operated for cleft lip and palate in Hospital Universiti Sains Malaysia.
4. Other wise healthy children age from birth to 6 years.

### *Exclusion criteria*

1. Cleft lip and palate patients and normal children with other systemic and congenital abnormality.
2. Children's more then 6 years.
3. Incomplete repair of Cleft Lip and Palate

The normal healthy children were selected from nurseries, kindergartens and primary school by a random sampling method.



## Results

The composition of the sample by age, sex, ethnicity and mean age of the parents with CLP and normal children is shown in Table 1. The results showed that 71.7% of the parents with CLP children had family income of less than RM 1000.00. Parents of CLP children had a lower education than parents of normal children ( $p < .001$ ). Among CLP children, 31.7 % of them came from family size of 9 – 12 people (Table 2).

Practice of feeding from birth to 24 months in normal and CLP infants was investigated. Regarding mother's attitude to breast-feeding, it was observed that 100% of mothers with normal babies had a positive attitude, while only 76.5% of the mothers with CLP babies had a positive attitude ( $p < .001$ ). Although 88.2% of mothers with CLP babies tried to breast feed their infants, only 40% of them were successful (Table 3). Among CLP infants, 76.5% used bottle and 69.2% used spoon for feeding while in normal infants, 49.2% used bottle and 1.7% used spoon for feeding ( $p = .046$ ). A larger percentage of parents used formula milk in the bottle and spoon when compared to the use of bovine or human milk (Table 3).

Change in feeding practices after surgical repair of the lip and the palate was noted. It was observed that 27.8% of the children who underwent lip correction had a change in the feeding practice that was towards bottle-feeding. 21.6% of the subjects admitted a change in the practice of feeding after palate repair. When noting the change it was observed that 12.5% changed to breast-feeding, 75% changed to bottle-feeding and 12.5% changed to spoon-feeding.

Nutritional value of cleft lip and palate patients in sub group 2 and 3 were compared to normal children of the same age group. It was observed the mean nutritional value between normal and cleft children were not different (Table 6).

CLP children from birth to 24 months were more susceptible to infection like fever ( $p = .023$ ), diarrhoea ( $p = .015$ ) when compared to normal children (Table 4). Results of gained in height after six months in normal and CLP children in all age groups, showed that height was significantly lower ( $p = .035$ ) in CLP children when compared to normal children (Table 5).

### **Discussion**

161 normal and 60 CLP children were divided as per the age. It was observed in children from birth to 24 months that the mean age of the normal children and CLP children were 8.55 months and 15.25 months, respectively. The difference in the mean age noted in this group can be attributed to a larger percentage of normal infants below 6 months. This sample had almost equal number of male and female subjects. Considering the ethnicity of the subjects, the majority of the samples were Malays. This may be due to the predominance of this ethnic group in the state Kelantan in Malaysia where the study was conducted.

The mean age of the fathers was 36.17 and mother's age was 33.54 in parents with normal children, while the mean age of parents with CLP infants, fathers and mothers age were 38.88 and 34.28, respectively (Table 1). Sipek A (10) evaluated the maternal age as one of the risk factors for the

development of facial clefts, their finding confirmed a greater risk in 15 year old women and women older than 35 years.

It was observed that 49.1% of the fathers and 47.8% of the mothers of normal children had higher education levels when compared to parents of CLP infants. In terms of family income 71.7% of the family's with CLP infants had a total income less than RM 1000.00 Furthermore it was noted that 31.7% of the CLP infants lived in households, which had 9 –12 people (Table 2). From the data presented here we can observe that a large proportion of CLP infants came from a lower socioeconomic strata when compared to parents with normal children.

Analyzing the practice of feeding infants from birth to 24 months of age it was observed that 100% of the mothers with normal children were willing to breast feed their infants when given a preference, where as only 76.5% of the mothers with CLP infants wanted to breast feed. Oliver RG, Jones G (11) has reported that prior to birth, the majority of mothers with CLP infants intended to breast feed their child; after birth, the majority of infants were bottle-fed. The majority of mothers felt that they had been a part of the decision to change method. Although 88.2% of the mothers with CLP infants tried to breast-feed only 40 % were successful (Table 3). Trenouth MJ, Campbell AN (12) has reported in his study that twelve of the 25 mothers with CLP infants tried to breast feed but none of them was successful. The reasons the mothers could not breast feed their infants were attributed to the anatomical defect in the lip and palate and the inability of the mothers to position the nipple properly into the infants mouth. The use of bottle and spoon for feeding the infants were noted to a larger extent in CLP infants

when compared to normal infants. This practice can be attributed to the inability of the mothers to successfully breast feed their infants. Most of the mothers who used bottle and spoon for feeding their infants preferred formula milk to human or bovine milk, which can be attributed to easy availability of the formula milk.

It was observed that CLP infants from birth to 24 months were at risk to common infection such as fever and diarrhoea when compared to normal infants (Table 4). This may be attributed to the use of bottle and spoon for feeding in CLP children, which could be contaminated resulting in recurrent infections in these CLP children. Where as normal breast feed infants were less susceptible to common infections. Danner SC (13) reported that breast-feeding provides protection against upper respiratory infections and otitis media.

The mean nutritional value of cleft lip and palate patients in sub group 2 and 3 were not different when compared to normal children of the same age group. The probable reason for this finding may be due to the fact the parent with CLP infants were interested in the child's nutrition, because of the medically compromising condition of the child. The parents of these children might have been advised in the hospital on the need of proper nutrition for there CLP infant

When analyzing the six months increment on growth between normal and CLP children it was observed that CLP infants were of lower height than normal infants where as there was no significant difference between the normal and CLP infants when comparing other growth parameters. Since

increment in height takes place at a faster rate than other growth parameters, we were able to note this difference in 6 months between the two groups.

A number of earlier research conducted on assessing the growth in CLP patients noted the following observations. Lee et al (14) studied the growth of 83 CLP children age 0 –4 years found that they grew relatively poorly in early infancy but subsequently recovered, attaining both expected weight and height by last follow up at age 25.5 months. Lipman et al (15) reported that children between 3 to 12 years old with nonsyndromic orofacial clefts had significantly more growth failure than the general population. Cunningham et al (16) reported that white children from birth to 10 years with isolated CL, CP, or CLP demonstrated a mean height below the population mean. Ranalli DN and Mazaheri M (17) found that cleft children are neither consistently shorter nor consistently higher than the normal children. An early lag period occurred, but by three years cleft children caught up to the normal growth, thus appearing to confirm to the concept of catch up growth. Seth AK and Mc Williams BJ (18) assessed the weight from birth to 2 years of 77 babies with palatal cleft to normal infants and reported that the mean birth weight was not significantly different between the two groups.

Hence height can be used as one of the valuable tool to assess growth in CLP infants. Growth assessment must be included in the primary and specialty care in children with orofacial clefting. If growth failure is demonstrated, these children should be referred for evaluation of the etiology of their short stature.

## **Conclusion**

This study indicated that gained in height of CLP children are lower than normal children ( $p = .035$ ). Since this study only measured the pre and post growth parameters with in a six months period it is suggested that a longer duration of repeated growth measurement to be conducted in future studies to provide more conclusive results.

## **Acknowledgements**

We would like to thank USM short-term grant (No.304/PPSG/6131171) and School of Dental Sciences for providing the facilities for research. We would like to extend our gratitude to people involved in data collection, entry and analysis – Sharifah Zalhura Abdullah, Basaruddin Ahmad, Mohd Ayub Sadiq, Soo Kah Leng, Rohana Jalil, Ruhaya hasan, Marina .Abd. Manaf.



**TABLE 1: DESCRIPTIVE STATISTICS OF THE STUDY SAMPLE**

Variable	Normal (n = 161)				Cleft lip and palate (n = 60)			
	Freq	(%)	Mean	(SD)	Freq	(%)	Mean	(SD)
<b>Childs age</b>								
Birth–24months	62	(38.50)	8.55	(8.24)	20	(33.33)	15.25	(7.09)
25 – 47 months	48	(29.82)	39.85	(7.12)	20	(33.33)	37.05	(5.85)
48 – 72 months	51	(31.68)	64.16	(7.88)	20	(33.33)	56.75	(9.88)
<b>Fathers age</b>	151	(93.78)	36.17	(5.78)	59	(98.33)	38.88	(8.17)
<b>Mothers age</b>	152	(94.40)	33.54	(5.24)	60	(100)	34.28	(6.58)
<b>Childs sex</b>								
Male	85	(52.80)			30	(50)		
Female	76	(47.20)			30	(50)		
<b>Childs ethnicity</b>								
Malay's	161	(100)			57	(95)		
Others	0	( 0)			3	(5)		

Freq = Frequency

**Table: 2    SOCIODEMOGRAPHIC INDICATORS**

Variable	Freq.(%)		$\chi^2$ Statistic <sup>a</sup>	P value
	Normal n=161	CLP n=60		
<b>Fathers education</b>				
Primary school	4 (2.5)	10 (16.7)	59.48	< .001
Lower secondary	8 (5.0)	15 (25.0)		
Upper secondary	70 (43.4)	34 (56.6)		
Higher education	79(49.1)	1 (1.7)		
<b>Mothers education</b>				
Primary school	2 (1.2)	4 (6.7)	42.26	<.001
Lower secondary	10(6.3)	14(23.3)		
Upper secondary	72(44.7)	39(65.0)		
Higher education	77(47.8)	3(5.0)		
<b>Family income</b>				
<RM 1000	18 (11.2)	43 (71.7)	86.23	<.001
RM 1000 – 2000	28 (17.4)	10 (16.7)		
> RM 2000	115(71.4)	7 (11.6)		
<b>House hold size</b>				
<4 people	57(35.4)	11(18.3)	24.78	<.001
5 –8 people	92 (57.2)	30(50.0)		
9- 12 people	11(6.8)	19(31.7)		
> 12 people	1 (0.6)	0		

Freq. = frequency ; a = Chi - square test

**Table 3: Practice Of Feeding The Infants in Children from Birth to 24 months**

Variable	<i>n</i>		Normal Freq.(%)	CLP Freq.(%)	$\chi^2$ statistic <sup>a</sup>	<i>P</i> value
	Normal	CLP				
Attitude to breast feed	60	17	60(100)	13 (76.5)		.002 <sup>b</sup>
Tried breast feed	60	17	60(100)	15(88.2)		.046 <sup>b</sup>
Successful feeding	60	15	54(90)	6 (40.0)		.000 <sup>b</sup>
Bottle for feeding	59	17	29(49.2)	13(76.5)	3.98	.046
Milk used in bottle	29	13	6(20.7)	6(46.1)		.141 <sup>b</sup>
Human & bovine milk			23(79.3)	7(53.9)		
Formula milk						
Spoon for feeding	58	13	1 (1.7)	9(69.2)		.000 <sup>b</sup>
Milk used in spoon	1	9	0	4 (44.4)		1.000 <sup>b</sup>
Human & bovine milk			1 (100)	5 (55.6)		
Formula milk						

Chi - square = a

Fisher's exact test = b

Note: All subjects who answered yes are included in this table

**TABLE 4: RISK TO COMMON INFECTION IN CHILDREN BELOW  
TWO YEARS**

Variable	<i>n</i> Normal CLP		Normal (present) <sup>c</sup>	CLP (present) <sup>c</sup>	$\chi^2$ statistic <sup>a</sup>	<i>P</i> value
Fever	56	17	22(39.28)	12(70.5)	5.14	.023
Diarrhoea	56	17	3 (5.4)	5 (29.4)		.015 <sup>b</sup>
Ear infection	55	17	6 (10.9)	0		.325 <sup>b</sup>

Chi-square = a; Fisher's exact test = b; Children who had the infection = c

**Table 5: COMPARING SIX MONTHS INCREMENT OF GROWTH  
BETWEEN NORMAL AND CLEFT LIP / PALATE PATIENTS**

Variable	<i>n</i>		Normal	CLP	Mean of score Difference 95% CI	<i>P</i> value
	Normal	CLP				
Weight (kg) (median, IQR)	102	49	1.0 (1.47)	1.0 (1.00) <sup>a</sup>		.709 <sup>b</sup>
Height (cm) (median, IQR)	102	49	4.6 (3.60)	1.0 (1.00) <sup>a</sup>		.035 <sup>b</sup>
Arm circumference (cm) Mean (SD)	101	49	0.6 (1.03)	0.6 (0.79)	0.009 (-.32, .34)	0.96 <sup>c</sup>
Head Circumference (cm) (median, IQR)	102	49	0.7 (1.00)	1.0 (1.00) <sup>a</sup>		0.096 <sup>b</sup>
Chest circumference (cm) Mean (SD)	102	49	2.1(3.62)	1.5 (1.50)	0.69 (-0.14, 1.5)	0.103 <sup>c</sup>

IQR = Interquartile range; b = Mann-Whitney test; c = 't' test equal  
variances

**Table 6: Nutrition in CLP children when compared to normal children**

Variable	Normal Age 2-4 Yrs Mean (SD) <i>n</i> = 47	CLP Age 2- 4 Yrs Mean (SD) <i>n</i> = 18	Normal Age 4-6 Yrs Mean (SD) <i>n</i> = 48	CLP Age 4- 6 Yrs Mean (SD) <i>n</i> = 20
Energy	1258.4(348.311)	1077.1(361.74)	1074.9(393.71)	1270.9(575.15)
Protein	49.4(29.16)	51.5(34.05)	35.7(25.35)	41.6(27.06)
Fat	38.7(16.29)	43.4(34.45)	29.6(15.72)	43.5(23.04)
Carbohydrate	175.0(42.63)	189.4(195.97)	162.2(60.45)	175.3(82.53)
Calcium	284.5(129.95)	309.3(164.05)	204.9(133.99)	298.3(277.46)
Phosphorus	937.8(615.92)	991.9(562.76)	629.1(446.64)	808.6(438.70)
Iron	9.4(8.13)	8.3(5.91)	7.5(6.86)	8.2(5.66)
Sodium	716.1(498.97)	641.1(480.61)	786.4(581.00)	1082.0(787.68)
Potassium (K)	935.9(464.61)	1070.1(517.27)	817.8(455.03)	976.3(533.91)
Retinol	509.8(462.55)	458.6(352.77)	313.4(308.41)	368.1(299.22)
β-carotene	517.9(552.01)	181.6(393.9)	476.6(702.54)	578.7(1661.70)
RE	596.0(473.42)	488.9(352.1)	395.3(343.65)	464.6(354.70)
B1	0.6(0.26)	0.5(0.36)	0.5(0.26)	0.5(0.29)
B2	0.8(0.39)	0.8(0.51)	0.7(0.43)	0.8(0.46)
Niacin	6.9(3.32)	6.2(3.42)	6.2(4.15)	8.1(5.72)
Vit - C	11.3(10.76)	11.5(30.18)	16.6(24.38)	15.5(18.32)



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## **APPENDIX**

**Pemakanan Untuk Kanak-kanak Rekahan Lelangit**  
*Nutrition in cleft palate children*

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**Soalselidik untuk ibubapa yang mempunyai anak dengan rekahan bibir dan lelangit**  
*Questionnaire for parents with young cleft lip and palate children*

**Borang Sosioekonomi (Borang A)**

**Kod :**

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Arahan : Isikan tempat kosong atau tandakan (√) di kotak yang disediakan.

1. NAMA ANAK : \_\_\_\_\_  
*Childs Name*
2. NO. PENDAFTARAN : \_\_\_\_\_  
*Register No.*
3. UMUR ANAK : \_\_\_\_\_  
*Childs age*
4. JANTINA ANAK : a) ☐ Lelaki / Male b) ☐ Perempuan / Female  
*Childs sex*
5. BANGSA : a) ☐ Melayu b) ☐ Cina c) ☐ India  
*Ethnicity*  
d. Lain-lain (nyatakan) : \_\_\_\_\_
6. ALAMAT : \_\_\_\_\_  
*Address*
7. NO. TELEFON : \_\_\_\_\_  
*phone no.*
8. NAMA BAPA : \_\_\_\_\_  
*Fathers name*
9. UMUR BAPA : \_\_\_\_\_  
*Fathers age*
10. PEKERJAAN BAPA : \_\_\_\_\_  
*Father's Occupation*

11. PENDIDIKAN BAPA : \_\_\_\_\_  
*Father's Education*
12. NAMA IBU : \_\_\_\_\_  
*Mother's name*
13. UMUR IBU : \_\_\_\_\_  
*Mother's age*
14. PEKERJAAN IBU : \_\_\_\_\_  
*Mother's Occupation*
15. PENDIDIKAN IBU : \_\_\_\_\_  
*Mother's Education*
16. JANGKAMASA KANDUNGAN (BULAN) :  
*Gestation period in months : \_\_\_\_\_*
17. KAEDAH BERSALIN :  
*Type of delivery : \_\_\_\_\_*
18. JUMLAH PENDAPATAN BULANAN KELUARGA (termasuk pendapatan ibu dan bapa jika bekerja) (RM \_\_\_\_\_ )  
*Family Income*
- |                     |                      |
|---------------------|----------------------|
| a) < RM 1,000       | <input type="text"/> |
| b) RM 1,000 – 1,500 | <input type="text"/> |
| c) RM 1,501 – 2,000 | <input type="text"/> |
| d) RM 2,001 – 2,500 | <input type="text"/> |
| e) RM 2,501 – 3,000 | <input type="text"/> |
| f) > RM 3,000       | <input type="text"/> |
19. BILANGAN ANAK : \_\_\_\_\_  
*Number of children*
20. BILANGAN ISI RUMAH : \_\_\_\_\_  
*Household size*